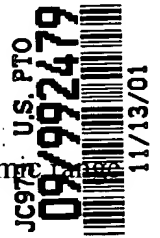


In the United States Patent and Trademark Office

Application No.: Not assigned
 Filed: Filed herewith
 Title: Photocurrent estimation from multiple captures for simultaneous SNR and dynamic range improvement in CMOS image sensors
 Applicant(s): Xinqiao Liu et al.
 Examiner: Not assigned
 Art Unit: Not assigned



Mailed Nov. 13, 2001
 Santa Clara, CA

Information Disclosure Statement

Commissioner of Patents and Trademarks
 Washington, District of Columbia 20231

Dear Sir or Madam:

Attached is a completed Form PTO-1449 and copies of the pertinent parts of the references cited thereon. It is requested that the document(s) on the enclosed form be made of record.

Part I (Authority)

This statement is filed pursuant to:

(X) 37 C.F.R. § 1.97(b).

This information disclosure statement is filed either (1) within three months of the filing date of the national applications; (2) within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application; or (3) before the mailing date of a first office action on the merits, whichever event occurs last.

Accordingly, this information disclosure statement requires no fee and no certification.

() 37 C.F.R. § 1.97(c).

This information disclosure statement is filed after the period specified in 37 C.F.R. § 1.97(b), but before the mailing date of either (1) a final action under 37 C.F.R. § 1.113 or (2) a notice of allowance under 37 C.F.R. § 1.311.

Accordingly, this information disclosure statement requires either the fee specified in 37 C.F.R. § 1.17(p) for submission of an information disclosure statement under 37 C.F.R. § 1.97(c) (\$180), or a certification according to 37 C.F.R. § 1.97(e).

() 37 C.F.R. § 1.97(d).

This information disclosure statement is filed after the period specified in 37 C.F.R. § 1.97(c).

Accordingly, this information disclosure statement requires the petition fee specified in 37 C.F.R. § 1.17(p) to consider an information disclosure statement under 37 C.F.R. § 1.97(d) (\$180), a certification according to 37 C.F.R. § 1.97(e), and a petition requesting consideration of the information disclosure statement.

Conditional Petition

It is respectfully requested that this information disclosure statement be considered, good cause being presented in Part III herein (certification). please treat this paper as the required petition.

If this statement crosses in the mail with an office action, or is otherwise not in the indicated category of 37 C.F.R. § 1.97, it is respectfully requested that this statement be treated in the next appropriate category and made of record.

To the extent required, please treat this paper as a conditional petition for acceptance of the information disclosure statement.

Part II (Payment)

A check is enclosed as indicated:

- ☒ (X) No fee is due.
- ☐ () The fee specified in 37 C.F.R. § 1.17(p) for submission of an information disclosure statement under 37 C.F.R. § 1.97(c) is enclosed (\$240).
- ☐ () The petition fee specified in 37 C.F.R. § 1.17(i)(1) to consider an information disclosure statement under 37 C.F.R. § 1.97(d) is enclosed (\$130).

Part III (Certification)

Pursuant to 37 C.F.R. § 1.97(e), I certify:

- ☒ (X) No certification is necessary.
- ☐ ()
 - (1) Each item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the statement.
 - ☐ () The "communication from a foreign patent office" referred to in the certification is an International Search Report, possibly issued by the U.S. Patent and Trademark Office in its capacity as an International Search Authority or International Preliminary Examining Authority.
 - ☐ () The "counterpart foreign application" referred to in the certification corresponds to an ancestor or descendent application of the application for which this information disclosure statement is filed.
- ☐ ()
 - (2) No item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c), more than three months prior to the filing of the statement.

Part IV (Additional Statement)

An additional statement regarding these items of information ☐ () is, ☒ (X) is not, enclosed.

Copies of the cited art ☒ (X) are enclosed, ☐ () are of record in parent application Serial No. _____ and will be provided if the Examiner deems it convenient.

Respectfully submitted,

Dated: *Nov. 13, 2001*



Katharina Wang Schuster
Reg. No. P-50,000
45 Cabot Ave., Suite 110
Santa Clara, CA 95051
tel: (408) 260-7300
fax: (408) 260-7301

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|--|---|---|
| | Q | M. R. Banham; "Digital image restoration;" IEEE SIGNAL PROCESSING MAGAZINE, VOL. 14 NO. 2, PP.24-41, MARCH 1997 |
| | R | N. Stevanovic et al.; "A CMOS image sensor for high speed imaging;" ISSCC DIG. TECH. PAPERS, PP. 104-105, FEB 2000 |
| | S | S. Kleinfelder et al.; "A 10,000 frames/s 0.18μM CMOS digital pixel sensor with pixel-level memory;" ISSCC DIG. TECH. PAPERS, FEB 2001 |
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| EXAMINER | | DATE CONSIDERED |
| <p>* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p> | | |

Sheet 1 of 1
 09/22/99
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|---|--------------------------------|----------------------------|
| FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE | ATTY. DOCKET NO. S01-019/US | SERIAL NO. Not assigned |
| LIST OF PRIOR ART CITED BY APPLICANT (Use several sheets if necessary) | APPLICANT Xinqiao Liu et al | |
| | FILING DATE Filed herewith | GROUP Not assigned |

U.S. PATENT DOCUMENTS

| EXAMINER INITIAL | | DOCUMENT NUMBER | | | | | | | DATE | NAME | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|---------------------|----|--------------------|---|---|---|---|---|---|----------|----------------|-------|----------|----------------------------------|
| | A | 5 | 2 | 7 | 2 | 5 | 3 | 5 | 12/21/93 | Elabd | 358 | 213.11 | 6/13/91 |
| | B | 5 | 4 | 6 | 1 | 4 | 2 | 5 | 10/24/95 | Fowler et al. | 348 | 294 | 2/15/94 |
| | C | 5 | 5 | 8 | 3 | 3 | 6 | 7 | 12/10/96 | Blossfeld | 257 | 426 | 1/17/95 |
| | D | 5 | 7 | 4 | 2 | 0 | 4 | 7 | 4/21/98 | Buhler et al. | 250 | 214 | 10/1/96 |
| | E | 5 | 8 | 0 | 1 | 6 | 5 | 7 | 9/1/98 | Fowler et al. | 341 | 155 | 2/5/97 |
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| | G | 5 | 9 | 0 | 0 | 6 | 2 | 3 | 5/4/99 | Tsang et al | 250 | 208 | 8/11/97 |
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| | CC | 6 | 1 | 5 | 7 | 0 | 1 | 6 | 12/5/00 | Clark et al. | 250 | 208.1 | 9/30/97 |

FOREIGN PATENT DOCUMENTS

| | | DOCUMENT NUMBER | | | | | | | ISSUE DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION | |
|--|---|--------------------|--|--|--|--|--|--|---------------|---------|-------|----------|-------------|----|
| | | | | | | | | | | | | | YES | NO |
| | I | | | | | | | | | | | | | |
| | J | | | | | | | | | | | | | |
| | K | | | | | | | | | | | | | |

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

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